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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/625,525

07/24/2003

Sang Seok Lee

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EXAMINER

MCNALLY, DANIEL

ART UNIT

PAPER NUMBER

1733

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

04/13/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/625,525

Applicant(s)

LEE ET AL.

Examiner

Daniel McNally

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 and 8-22 is/are pending in the application.
- 4a) Of the above claim(s) 21 and 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-10 and 14-20 is/are rejected.
- 7) ☒ Claim(s) 11-13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. This Office action is in response to the Amendment filed 1/31/2007.

#### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 6, 19 and 20 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 6, 19 and 20 do not further limit Claim 1 because Claim 1 already requires a first plurality, or at least two, of elastic members between the upper stage and upper chamber unit and a second plurality, or at least two, of elastic members between the lower stage and the lower chamber unit. Claim 6 is broader than Claim 1 because only one elastic member is required between the upper stage and the upper chamber unit and only one elastic members is required between the lower stage and the lower chamber unit, while Claim 1 requires at least two elastic members between the upper chamber unit and the upper stage and at least two elastic members between the lower chamber unit and the lower stage. Claims 19 and 20 do not further limit Claim 1 as stated above and furthermore it is unclear if "the plurality of elastics" is referring to the "first" or "second" plurality of elastics. Because all of the limitations of Claims 6, 19 and 20 are included in the independent Claim 1, it is recommended the applicant cancel Claims 6, 19 and 20.

***Claim Rejections - 35 USC § 103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-6, 8-10, 14, 15, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Satoshi et al (of record, previously cited) in view of Cram (of record, previously cited).

Satoshi et al. discloses a substrate bonding apparatus for manufacturing a liquid crystal display device comprising a base frame(3); a lower chamber unit (10) mounted to the base frame (paragraph 0013); an upper chamber unit (21) joinable to the lower chamber unit; an upper stage (S1) fixed to the upper chamber unit (21) for securing a first substrate (1b); a lower stage (T1) fixed to the lower chamber unit for securing a second substrate (1a). The reference is silent as to the presence of elastic members.

Cram discloses an apparatus capable of manufacturing a liquid crystal display comprising upper and lower chamber units, an upper stage and a lower stage for securing respective substrates, and a plurality of elastic members arranged between the upper and lower chamber units and the upper and lower stages, respectively (see Figure). Arranging elastic members between the upper and lower chamber units and the upper and lower stages is advantageous because, as disclosed by Cram, said members provide for proper sealing of the chamber unit during bonding (column 2, lines 63-66). Therefore, at the time of invention it would have been obvious to a person of ordinary skill in the art at the time of invention to arrange the elastic members disclosed by Cram

between the upper and lower chamber units and the upper and lower stages of Satoshi et al.

As to claim 2, Satoshi et al. discloses a substrate bonding apparatus capable of manufacturing a liquid crystal display device wherein the upper and lower chamber units are capable of being convexly bendable (paragraph 0019). Applicant should note that although neither reference explicitly states that the elastic members (108) exert restoration forces on the upper and lower chamber units, the nature of elasticity would have lead one of ordinary skill in the art to understand that elastic members placed between an upper stage and an upper chamber unit and a lower stage and an lower chamber unit respectively, would have been capable of exerting restoration forces to the upper and lower chamber units.

As to claim 3, Cram discloses a substrate bonding apparatus capable of manufacturing a liquid crystal display device wherein the plurality of elastic members include a coil spring (see Figure).

As to claims 4 and 5, examiner acknowledges that there is not explicit disclosure of conical or plate springs. However, examiner asserts the use of all three springs is well known. Absent any unexpected results specific to the instant invention one of ordinary skill in the art would have readily recognized to use an initially shaped-conical spring or a plate spring in place of a coil spring.

As to claim 6, the limitations have already been discussed with regard to Claim 1.

As to claim 8, Satoshi discloses at least one of the upper and lower stages includes: a fixing plate (27) coupled to a corresponding one of the upper and lower

chamber units; and a securing plate (28) for securing a corresponding one of the first and second substrates (see Figure 1).

As to claims 9 and 10, Cram discloses the elastic members are located between the upper and lower chamber units and the upper and lower stages, respectively. Satoshi discloses that the upper and lower stages may comprise a fixing plate. When viewing the combined references the elastic members are located between the upper and lower chamber units and the upper and lower stages, wherein the stages comprise a fixing plate, therefore the elastic members are between the upper and lower chamber units and the fixing plate.

As to claim 14, Satoshi discloses the securing plate includes a plurality of electrostatic chucks (paragraph 0021).

As to claim 15, one of ordinary skill in the art at the time of invention would have been motivated to place the elastic members in correspondence with the plurality of electrostatic chucks such that the substrate is held in a parallel manner to a second substrate during the chucking process.

As to claims 19 and 20, the limitations have already been discussed with regard to Claim 1.

6. Claims 16-18 rejected under 35 U.S.C. 103(a) as being unpatentable over Satoshi et al. (of record, previously cited) and Cram (of record, previously cited) and further in view of Kubota et al. (of record, previously cited) for the same reasons as set forth in paragraph 6 of the Office action dated 11/15/2005.

***Allowable Subject Matter***

7. Claims 11, 12 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: Claim 11 requires the plurality of elastic members arranged between the fixing and the securing plate. The prior art of record does not disclose a plurality of elastic members arranged between the fixing and securing plate. The closest prior art; Satoshi discloses a fixing and securing plate but no elastic members there between; Cram discloses placing elastic members between the chamber unit and the stage but the stage of Cram does not comprise a fixing plate and a securing plate. Additionally nothing in the prior art would motivate one of ordinary skill in the art at the time of invention to place an elastic member between the securing and the fixing plate.

***Response to Arguments***

9. Applicant's arguments filed 1/31/2007 have been fully considered but they are not persuasive. The applicant's arguments are directed toward the teachings of Machida. The application of Machida in the rejections under 35 U.S.C. 103(a) has been withdrawn. The applicant argues there is no teaching of applying elastic members at the upper part of the chamber in the combination of Satoshi, Machida, and Cram. Cram discloses the location of elastic members on both the upper and lower part of the chamber. The examiner maintains the position that it would have been obvious to

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modify Satoshi as taught by Cram as discussed in paragraph 4 of the Office action dated 11/2/2006.

***Conclusion***

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

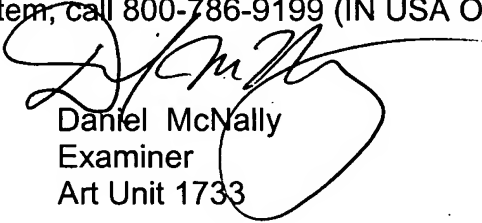
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel McNally whose telephone number is (571) 272-2685. The examiner can normally be reached on Monday - Friday 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.




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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Daniel McNally  
Examiner  
Art Unit 1733



JEFF H. AFTERGUT  
PRIMARY EXAMINER  
GROUP 1300

dpm  
April 10, 2007